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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/784,605	LORA ET AL.	
	Examiner	Art Unit	
	Usmaan Saeed	2166	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 October 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-60* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-60* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

In view of the Appeal Brief filed on 10/15/2007, PROSECUTION IS HEREBY REOPENED. A new ground of rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options.

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or

(2) request reinstatement of the appeal. If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193 (b)(2).

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 50-60 are rejected under 35 U.S.C. 101 as being directed to non-statutory subject matter. The language of the claims raises a question as to whether the claims are directed merely to an environment or machine which would result in a practical application producing a concrete useful, and tangible result to form the basis of statutory subject matter under 35 U.S.C. 101.

Claim 50 is rejected because it includes both tangible and non tangible storage mediums. Applicants' specification recites "the present invention may take the form of a

computer program product on a computer-usable or computer-readable storage medium having computer-usable or computer-readable program code embodied in the medium for use by or in connection with an instruction execution system. In the context of this document, a computer-usable or computer-readable medium may be any medium that can contain, store, communicate, *propagate*, or transport the program for use by or in connection with the instruction execution system, apparatus, or device. The computer-usable or computer-readable medium may be, for example but not limited to, an electronic, magnetic, optical, electromagnetic, infrared, or semiconductor system, apparatus, device, or *propagation medium*." The computer readable storage medium includes computer usable or computer readable medium that can propagate or is a propagation medium. Therefore, the computer usable storage medium of claim 50 includes propagation signals which are non-tangible mediums. Appropriate correction is required.

To expedite a complete examination of the instant application the claims rejected under U.S.C. 101 (nonstatutory) above are further rejected as set forth below in anticipation of application amending these claims to place them within the four categories of invention.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-60 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Goldstein et al**. (**Goldstein** hereinafter) (U.S. PG Pub No. 2002/0198984) in view of **Robert Giffords.** (**Giffords** hereinafter) (U.S. PG Pub No. 2004/0102925).

With respect to claim 1, **Goldstein** teaches **a data storage management system for managing a plurality of remotely located, independent data storage systems, comprising:**

"a central monitoring system located at a geographical location different from a geographical location of each respective remotely located, independent data storage system, wherein the central monitoring system comprises a central data repository" as the monitoring system includes an agent component that monitors the performance of the transactional server as seen from one or more geographic locations and reports the performance data to a reports server and/or centralized database (**Goldstein** Abstract).

"for regarding the status of each of the remotely located, independent data storage systems" as the reports server 36 may optionally be implemented by a "monitoring service provider" entity that stores and provides secure access to server status data for many different transactional servers and business entities; this approach

relieves the operator of the transactional server under test from having to administer the reports server 36 (**Goldstein** Paragraph 0076).

"a plurality of remote agent systems, wherein each remote agent system communicates with a respective one of the remotely located data storage systems, wherein each remote agent system collects metadata regarding the data stored at from a respective remotely located data storage system, converts the collected data to a standardized format, and stores the collected data in the central data repository" as the performance data generated by the client and server agents is aggregated in a centralized database that is remotely accessible through a web reports server (**Goldstein** Paragraph 0020). The reports server 36 may optionally be implemented by a "monitoring service provider" entity that stores and provides secure access to server status data for many different transactional servers and business entities (**Goldstein** Paragraph 0076). The agent captures the screen returned by the transactional server and compares this response against any associated verification points defined within the transaction. The screen displays are preferably stored as bitmap images, but may alternatively be stored in another format such as HTML documents and associated objects (**Goldstein** Paragraph 00148 and 0127).

Applicant describes in his specification that metadata is associated with the transactional events and each remote agent system collects data (e.g., metadata) from a respective customer data storage system that relates to the performance/status of the data storage system.

Therefore examiner interprets performance data and status data as metadata being collected from the remote storage systems, which stores transactional data.

Further paragraph 0127 teaches filtering of data according to different attributes i.e. performance data. Therefore performance data is metadata/(data about data) since reports/data are being filtered according to the performance data.

Goldstein teaches the elements of claim 1 as noted above but does not explicitly disclose, **"converts the collected data to a standardized format."**

However, **Giffords** teaches, **"converts the collected data to a standardized format"** as establishing a common representation format for the first performance metric data and the second performance metric data (**Giffords** Abstract).

Giffords figure 1 also teaches a data storage system 10, which includes a plurality of storage systems 12 and performance monitoring system 14. Monitoring system 14 includes a plurality of host agents 30 and a management station 32. Host agents 30 are coupled with respective storage systems 12.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of the cited references because **Giffords's** teachings would have allowed **Goldstein** to provide faster computations, common/standardized formats and remove unnecessary data comparison points.

With respect to claim 2, **Goldstein** teaches **"the data storage management system of claim 1, wherein each remote agent system comprises pattern**

recognition logic that can identify data patterns that precede fault conditions at a respective remotely located data storage system" as the agent computers may be programmed to capture sequences of screen displays during transaction execution, and to transmit these screen displays to the reports server for viewing when a transaction fails. This feature allows the user to view the sequence of events, as "seen" by an agent, that led to the error condition (**Goldstein** Paragraph 0017).

Claim 28 is same as claim 2 and is rejected for the same reasons as applied hereinabove.

With respect to claim 3, **Goldstein** teaches **"the data storage management system of claim 1, wherein storing the collected data in the central data repository"** as the performance data generated by the client and server agents is aggregated in a centralized database that is remotely accessible through a web reports server (**Goldstein** Paragraph 0020). The reports server 36 may optionally be implemented by a "monitoring service provider" entity that stores and provides secure access to server status data for many different transactional servers and business entities (**Goldstein** Paragraph 0076).

"a single remote agent system collects the metadata from its respective remotely located data storage system" as (**Goldstein** Figure 1). The reports server 36 may optionally be implemented by a "monitoring service provider" entity that stores and provides secure access to server status data for many different transactional

servers and business entities; this approach relieves the operator of the transactional server under test from having to administer the reports server 36 (**Goldstein** Paragraph 0076). Figure 1 shows specific agents for specific locations and examiner interprets performance data and status data as metadata being collected from the remote storage systems, which stores transactional data.

Goldstein teaches the elements of claim 3 as noted above but does not explicitly teach, **"consolidates the collected data."**

However, **Giffords** discloses, **"consolidates the collected data"** as establishing a common representation format for the first performance metric data and the second performance metric data (**Giffords** Abstract). Examiner interprets combine/converting into single/standardized format as consolidation of the data.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of the cited references because **Giffords's** teachings would have allowed **Goldstein** to provide faster computations, common/standardized formats and remove unnecessary data comparison points.

Claims 16, 29, 40, and 51 are same as claim 3 and are rejected for the same reasons as applied hereinabove.

With respect to claim 4, **Goldstein** teaches **"the data storage management system of claim 1, wherein each remote agent system filters collected data prior to communicating the collected data to the central monitoring system to reduce**

an amount of data communicated to the central monitoring system" as by using this feature, the user can, for example, filter out from the reports the performance data corresponding to a particular transaction, location, organization, ISP, or combination thereof. In one embodiment (not shown), the user specifies the filter to be applied by completing a web form that includes a respective check box for each transaction and each attribute used in the monitoring session (**Goldstein** Paragraph 0127).

Claims 17, 30, 46, and 57 are same as claim 4 and are rejected for the same reasons as applied hereinabove.

With respect to claim 5, **Goldstein** teaches **"the data storage management system of claim 1, wherein each remote agent system comprises action logic that directs the remote agent system to perform one or more corrective actions at a respective remotely located data storage system in response to identifying a data pattern known to precede a fault condition"** as when certain types of server resources are determined by such analysis to be the source of a performance problem, a corrective action is automatically performed according to a set of predefined rules. For instance, a rule may specify that when insufficient disk space available to a particular machine is determined to be the likely source of long transaction response times, additional storage resources are to be automatically allocated to that machine (**Goldstein** Paragraph 0261).

Claims 31, 47, and 58 are same as claim 5 and are rejected for the same reasons as applied hereinabove.

With respect to claim 6, **Goldstein** teaches **"the data storage management system of claim 1, wherein each remote agent system collects data and hardware information from a respective remotely located data storage system"** as a system is provided that automatically analyzes performance data collected by agents to locate performance degradations, and to identify lower level parameters (such as server resource parameters) that are correlated with such degradations (**Goldstein** Paragraph 0021). The agent computer(s) includes in a monitoring session, assign attributes to such computers (such as the location, organization, ISP and/or configuration of each computer) (**Goldstein** Paragraph 0013).

Claims 18, 32, 48, and 59 are same as claim 6 and are rejected for the same reasons as applied hereinabove.

With respect to claim 7, **Goldstein** teaches **the data storage management system of claim 1, wherein each remote agent system comprises:**

"one or more element information managers (EIMs), wherein each EIM is configured to communicate with a respective data source at a remotely located data storage network and convert data from the data source to the standardized format" as the agent captures the screen returned by the transactional server and

compares this response against any associated verification points defined within the transaction. The screen displays are preferably stored as bitmap images, but may alternatively be stored in another format such as HTML documents and associated objects (**Goldstein** Paragraph 00148).

"one or more service information managers (SIMs), wherein each SIM is configured to communicate with EIMs associated with a common data application" and "one or more platform information manager (PIMs), wherein each PIM is configured to communicate with SIMs associated with a common data application platform" as the controller 34 also includes an automation interface 34C that provides methods for controlling the operation of the agents 32, including dispatching testcases and execution schedules to the agents (**Goldstein** Paragraph 0097).

"and an/activity director that is configured to communicate with each EIM, SIM and PIM and to instruct each EIM, SIM and PIM as to what information to collect and store" as (RCA) system is provided that automatically analyzes performance data collected by agents to locate performance degradations, and to identify lower level parameters (such as server resource parameters) that are correlated with such degradations. In a preferred embodiment, the RCA system analyzes the performance data to detect performance or quality degradations in specific parameter measurements (e.g., a substantial increase in average transaction response times) (**Goldstein** Paragraph 0021 & figure 1). In this reference performance data is being collected and stored in a database, which is communicating with the agents.

Goldstein teaches the elements of claim 7 as noted above but does not explicitly teaches **"one or more element information managers (EIMs), wherein each EIM is configured to communicate with a respective data source at a remotely located data storage network and convert data from the data source to the standardized format," "one or more service information managers (SIMs), wherein each SIM is configured to communicate with EIMs associated with a common data application" and "one or more platform information manager (PIMs), wherein each PIM is configured to communicate with SIMs associated with a common data application platform."**

However, **Giffords** teaches **"one or more element information managers (EIMs), wherein each EIM is configured to communicate with a respective data source at a remotely located data storage network and convert data from the data source to the standardized format"** as establishing a common representation format for the first performance metric data and the second performance metric data (**Giffords** Abstract).

"one or more service information managers (SIMs), wherein each SIM is configured to communicate with EIMs associated with a common data application and one or more platform information manager (PIMs), wherein each PIM is configured to communicate with SIMs associated with a common data application platform" as host agents 30 are coupled with respective storage systems 12 and are configured to interface with managers 22 of the respective storage systems 12, for example, using API calls (**Giffords** Paragraph 0021).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of the cited references because **Giffords's** teachings would have allowed **Goldstein** to provide faster computations, common/standardized formats and remove unnecessary data comparison points.

Claims 19, 49, and 60 are same as claim 7 and are rejected for the same reasons as applied hereinabove.

With respect to claim 8, **Goldstein** does not explicitly teach, **"the data storage management system of claim 1, wherein each remotely located data storage system comprises one or more data storage devices."**

However, **Giffords** teaches **"the data storage management system of claim 1, wherein each remotely located data storage system comprises one or more data storage devices"** as for example, storage systems 12 may be arranged as RAID storage systems, direct attached systems, network attached systems, and/or storage area network systems in exemplary embodiments (**Giffords** Paragraph 0018).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of the cited references because **Giffords's** teachings would have allowed **Goldstein** to provide faster computations, common/standardized formats and remove unnecessary data comparison points.

Claims 20 and 33 are same as claim 8 and are rejected for the same reasons as applied hereinabove.

With respect to claim 9, **Goldstein** does not explicitly teach **"the data storage management system of claim 8, wherein the one or more data storage devices comprise a plurality of heterogeneous data storage devices."**

However, **Giffords** discloses **"the data storage management system of claim 8, wherein the one or more data storage devices comprise a plurality of heterogeneous data storage devices"** as for example, storage systems 12 may be arranged as RAID storage systems, direct attached systems, network attached systems, and/or storage area network systems in exemplary embodiments (**Giffords** Paragraph 0018).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of the cited references because **Giffords's** teachings would have allowed **Goldstein** to provide faster computations, common/standardized formats and remove unnecessary data comparison points.

Claims 21 and 34 are same as claim 9 and are rejected for the same reasons as applied hereinabove.

With respect to claim 10, **Goldstein** teaches **"the data storage management system of claim 1, wherein the central monitoring system is configured to**

communicate corrective action information to each respective remote agent system and wherein each remote agent system is configured to implement the corrective action in response thereto" as when certain types of server resources are determined by such analysis to be the source of a performance problem, a corrective action is automatically performed according to a set of predefined rules. For instance, a rule may specify that when insufficient disk space available to a particular machine is determined to be the likely source of long transaction response times, additional storage resources are to be automatically allocated to that machine (**Goldstein** Paragraph 0261).

Claims 22, 35, 45, and 56 are same as claim 10 and are rejected for the same reasons as applied hereinabove.

With respect to claim 11, **Goldstein** teaches **"the data storage management system of claim 1, wherein the central monitoring system is configured to communicate corrective action information to a third party for implementation"** as when certain types of server resources are determined by such analysis to be the source of a performance problem, a corrective action is automatically performed according to a set of predefined rules. For instance, a rule may specify that when insufficient disk space available to a particular machine is determined to be the likely source of long transaction response times, additional storage resources are to be automatically allocated to that machine (**Goldstein** Paragraph 0261). Performance

problems discovered through the testing process may be corrected by programmers or system administrators (**Goldstein** Paragraph 0006).

Claims 23, 36, 44, and 55 are same as claim 11 and are rejected for the same reasons as applied hereinabove.

With respect to claim 12, **Goldstein** teaches **"the data storage management system of claim 1, wherein the central monitoring system is configured to analyze information from each remote agent system and identify patterns known to precede data storage problems at a respective remotely located data storage system"** as the agent computers may be programmed to capture sequences of screen displays during transaction execution, and to transmit these screen displays to the reports server for viewing when a transaction fails. This feature allows the user to view the sequence of events, as "seen" by an agent, that led to the error condition (**Goldstein** Paragraph 0017).

Claims 24, 37, 42-43, and 53-54 are same as claim 12 and are rejected for the same reasons as applied hereinabove.

With respect to claim 13, **Goldstein** teaches **"the data storage management system of claim 1, further comprising a plurality of customer portals, each customer portal associated with a respective one of the remotely located data**

storage systems and with the central monitoring system, wherein each customer portal provides user access to information about a respective one of the remotely located data storage systems" as the RCA system 168, which is accessible to users through a browser 100 or other user device such as an Internet-enabled handheld device (not shown). RCA system 168 in this embodiment include a RCA Internet server 268, a RCA application server 270, and a database bank 272 accessible to the RCA system 168. In the illustrated embodiment, the RCA system 168 may be shared by many different users or customers of a hosted monitoring service, and may thus be used concurrently to analyze the performance of many different web sites or other systems. The RCA system 168 may alternatively be set up, for example, on a corporate network and used exclusively for analyzing the server system(s) of a particular organization (**Goldstein** Paragraph 0226).

Claim 25 is same as claim 13 and is rejected for the same reasons as applied hereinabove.

With respect to claim 14, **Goldstein** teaches **"the data storage management system of claim 13, wherein each customer portal allows user control and configuration of a remotely located data storage system"** as the RCA system 168, which is accessible to users through a browser 100 or other user device such as an Internet-enabled handheld device (not shown). RCA system 168 in this embodiment include a RCA Internet server 268, a RCA application server 270, and a database bank

272 accessible to the RCA system 168. In the illustrated embodiment, the RCA system 168 may be shared by many different users or customers of a hosted monitoring service, and may thus be used concurrently to analyze the performance of many different web sites or other systems (**Goldstein** Paragraph 0226).

Claims 26 and 38 are same as claim 14 and are rejected for the same reasons as applied hereinabove.

With respect to claim 15, **Goldstein** teaches **a data storage management system for managing a plurality of remotely located, independent data storage systems, comprising:**

"a central monitoring system located at a geographical location different from a geographical location of each respective remotely located, independent data storage system, wherein the central monitoring system comprises a central data repository" as the monitoring system includes an agent component that monitors the performance of the transactional server as seen from one or more geographic locations and reports the performance data to a reports server and/or centralized database (**Goldstein** Abstract).

"for regarding the status of each of the remotely located, independent data storage systems" as the reports server 36 may optionally be implemented by a "monitoring service provider" entity that stores and provides secure access to server status data for many different transactional servers and business entities; this approach

relieves the operator of the transactional server under test from having to administer the reports server 36 (**Goldstein** Paragraph 0076).

"and a plurality of remote agent systems, wherein each remote agent system communicates with a respective one of the remotely located data storage systems, wherein each remote agent system collects metadata regarding the data stored at a respective remotely located data storage system, converts the collected data to a standardized format, and stores the collected data in the central data repository" as the performance data generated by the client and server agents is aggregated in a centralized database that is remotely accessible through a web reports server (**Goldstein** Paragraph 0020). The reports server 36 may optionally be implemented by a "monitoring service provider" entity that stores and provides secure access to server status data for many different transactional servers and business entities (**Goldstein** Paragraph 0076). The agent captures the screen returned by the transactional server and compares this response against any associated verification points defined within the transaction. The screen displays are preferably stored as bitmap images, but may alternatively be stored in another format such as HTML documents and associated objects (**Goldstein** Paragraph 00148). Examiner interprets performance data and status data as metadata being collected from the remote storage systems, which stores transactional data.

"wherein each remote agent system comprises pattern recognition logic that can identify data patterns that precede fault conditions at a respective remotely located data storage system" as the agent computers may be programmed

to capture sequences of screen displays during transaction execution, and to transmit these screen displays to the reports server for viewing when a transaction fails. This feature allows the user to view the sequence of events, as "seen" by an agent, that led to the error condition (**Goldstein** Paragraph 0017).

"and wherein each remote agent system comprises action logic that directs the remote agent system to perform one or more corrective actions at a respective remotely located data storage system in response to identifying a data pattern known to precede a fault condition" as when certain types of server resources are determined by such analysis to be the source of a performance problem, a corrective action is automatically performed according to a set of predefined rules. For instance, a rule may specify that when insufficient disk space available to a particular machine is determined to be the likely source of long transaction response times, additional storage resources are to be automatically allocated to that machine (**Goldstein** Paragraph 0261).

Goldstein teaches the elements of claim 15 as noted above but does not explicitly disclose, **"converts the collected data to a standardized format."**

However, **Giffords** teaches, **"converts the collected data to a standardized format"** as establishing a common representation format for the first performance metric data and the second performance metric data (**Giffords** Abstract).

Giffords's figure 1 also teaches a data storage system 10, which includes a plurality of storage systems 12 and performance monitoring system 14. Monitoring

system 14 includes a plurality of host agents 30 and a management station 32. Host agents 30 are coupled with respective storage systems 12.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of the cited references because **Giffords's** teachings would have allowed **Goldstein** to provide faster computations, common/standardized formats and remove unnecessary data comparison points.

Claims 39, 41, 50, and 52 are same as claim 15 and are rejected for the same reasons as applied hereinabove.

With respect to claim 27, **Goldstein** teaches **a data storage management system for managing a plurality of remotely located, independent data storage systems, comprising:**

"a central monitoring system located at a geographical location different from a geographical location of each respective remotely located, independent data storage system, wherein the central monitoring system comprises a central data repository" as the monitoring system includes an agent component that monitors the performance of the transactional server as seen from one or more geographic locations and reports the performance data to a reports server and/or centralized database (**Goldstein** Abstract).

"for regarding the status of each of the remotely located, independent data storage systems" as the reports server 36 may optionally be implemented by a

"monitoring service provider" entity that stores and provides secure access to server status data for many different transactional servers and business entities; this approach relieves the operator of the transactional server under test from having to administer the reports server 36 (**Goldstein** Paragraph 0076).

"a plurality of remote agent systems, wherein each remote agent system communicates with a respective one of the remotely located data storage systems, wherein each remote agent system collects metadata regarding the data stored a respective remotely located data storage system, converts the collected data to a standardized format, and stores the collected data in the central data repository, wherein each remote agent system comprises" as the performance data generated by the client and server agents is aggregated in a centralized database that is remotely accessible through a web reports server (**Goldstein** Paragraph 0020). The reports server 36 may optionally be implemented by a "monitoring service provider" entity that stores and provides secure access to server status data for many different transactional servers and business entities (**Goldstein** Paragraph 0076). The agent captures the screen returned by the transactional server and compares this response against any associated verification points defined within the transaction. The screen displays are preferably stored as bitmap images, but may alternatively be stored in another format such as HTML documents and associated objects (**Goldstein** Paragraph 00148). Examiner interprets performance data and status data as metadata being collected from the remote storage systems, which stores transactional data.

"one or more element information managers (EIMs), wherein each EIM is configured to communicate with a respective data source at a remotely located data storage network and convert data from the data source to the standardized format" as the agent captures the screen returned by the transactional server and compares this response against any associated verification points defined within the transaction. The screen displays are preferably stored as bitmap images, but may alternatively be stored in another format such as HTML documents and associated objects (**Goldstein** Paragraph 00148).

"one or more service information managers (SIMs), wherein each SIM is configured to communicate with EIMs associated with a common data application; one or more platform information manager (PIMs), wherein each PIM is configured to communicate with SIMs associated with a common data application platform" as the controller 34 also includes an automation interface 34C that provides methods for controlling the operation of the agents 32, including dispatching testcases and execution schedules to the agents (**Goldstein** Paragraph 0097).

"and an activity director that is configured to communicate with each EIM, SIM and PIM and to instruct each EIM, SIM and PIM as to what information to collect and store" as (RCA) system is provided that automatically analyzes performance data collected by agents to locate performance degradations, and to identify lower level parameters (such as server resource parameters) that are correlated with such degradations. In a preferred embodiment, the RCA system analyzes the

performance data to detect performance or quality degradations in specific parameter measurements (e.g., a substantial increase in average transaction response times) (**Goldstein** Paragraph 0021 & figure 1). In this reference performance data is being collected and stored in a database, which is communicating with the agents.

"and a plurality of customer portals, each customer portal associated with a respective one of the remotely located data storage systems and with the central monitoring system, wherein each customer portal provides user access to information about a respective one of the remotely located data storage systems" as the RCA system 168, which is accessible to users through a browser 100 or other user device such as an Internet-enabled handheld device (not shown). RCA system 168 in this embodiment include a RCA Internet server 268, a RCA application server 270, and a database bank 272 accessible to the RCA system 168. In the illustrated embodiment, the RCA system 168 may be shared by many different users or customers of a hosted monitoring service, and may thus be used concurrently to analyze the performance of many different web sites or other systems. The RCA system 168 may alternatively be set up, for example, on a corporate network and used exclusively for analyzing the server system(s) of a particular organization (**Goldstein** Paragraph 0226).

Goldstein teaches the elements of claim 27 as noted above but does not explicitly discloses **"converts the collected data to a standardized format," "one or more element information managers (EIMs), wherein each EIM is configured to communicate with a respective data source at a remotely located data storage network and convert data from the data source to the standardized format," "one**

or more service information managers (SIMs), wherein each SIM is configured to communicate with EIMs associated with a common data application" and "one or more platform information manager (PIMs), wherein each PIM is configured to communicate with SIMs associated with a common data application platform."

However, **Giffords** teaches, **"converts the collected data to a standardized format and one or more element information managers (EIMs), wherein each EIM is configured to communicate with a respective data source at a remotely located data storage network and convert data from the data source to the standardized format"** as establishing a common representation format for the first performance metric data and the second performance metric data (**Giffords** Abstract).

"one or more service information managers (SIMs), wherein each SIM is configured to communicate with EIMs associated with a common data application and one or more platform information manager (PIMs), wherein each PIM is configured to communicate with SIMs associated with a common data application platform" as host agents 30 are coupled with respective storage systems 12 and are configured to interface with managers 22 of the respective storage systems 12, for example, using API calls (**Giffords** Paragraph 0021).

Giffords's figure 1 also teaches a data storage system 10, which includes a plurality of storage systems 12 and performance monitoring system 14. Monitoring system 14 includes a plurality of host agents 30 and a management station 32. Host agents 30 are coupled with respective storage systems 12.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of the cited references because **Giffords's** teachings would have allowed **Goldstein** to provide faster computations, common/standardized formats and remove unnecessary data comparison points.

Response to Arguments

Applicant's arguments filed on 10/15/2007 have been fully considered but they are not persuasive.

In these arguments applicant relies on the amended independent claims and not the original ones.

Claims must be given the broadest reasonable interpretation during examination and limitations appearing in the specification but not recited in the claim are not read into the claim (See M.P.E.P. 2111 [R-I]).

Regarding claim 1 applicant argues that **Goldstein** does not disclose or suggest **"1. system for managing a plurality of remotely located, independent data storage systems, 2. a central data repository for data regarding status of each of the remotely located independent data storage systems, or 3. remote system agents that communicate with a respective one of the remotely located data storage systems and metadata regarding the stored data."**

In response to the preceding arguments examiner respectfully submits that **Goldstein** teaches **"system for managing a plurality of remotely located, independent data storage systems"** as the monitoring system includes an agent component that monitors the performance of the transactional server as seen from one or more geographic locations and reports the performance data to a reports server and/or centralized database (**Goldstein** Abstract).

The reports server 36 may optionally be implemented by a "monitoring service provider" entity that stores and provides secure access to server status data for many different transactional servers and business entities (**Goldstein** Paragraph 0076). Therefore these lines teach a monitoring system that monitors different transactional servers, which examiner interprets as a data storage system since the transactional server stores transaction data.

"a central data repository for data regarding status of each of the remotely located independent data storage systems" as the monitoring system includes an agent component that monitors the performance of the transactional server as seen from one or more geographic locations and reports the performance data to a reports server and/or centralized database (**Goldstein** Abstract). The reports server 36 may optionally be implemented by a "monitoring service provider" entity that stores and provides secure access to server status data for many different transactional servers and business entities; this approach relieves the operator of the transactional server under test from having to administer the reports server 36 (**Goldstein** Paragraph 0076).

Therefore the performance data and status data for different servers is being stored on a report server and/or centralized database.

"remote system agents that communicate with a respective one of the remotely located data storage systems" as the performance data generated by the client and server agents is aggregated in a centralized database that is remotely accessible through a web reports server (**Goldstein** Paragraph 0020).
The reports server 36 may optionally be implemented by a "monitoring service provider" entity that stores and provides secure access to server status data for many different transactional servers and business entities; this approach relieves the operator of the transactional server under test from having to administer the reports server 36 (**Goldstein** Paragraph 0076).

These lines teach that performance data is being generated by server agents which are located at remote locations to collect data from different transactional servers.

"metadata regarding the stored data" as the reports server 36 may optionally be implemented by a "monitoring service provider" entity that stores and provides secure access to server status data for many different transactional servers and business entities; this approach relieves the operator of the transactional server under test from having to administer the reports server 36 (**Goldstein** Paragraph 0076 and 0127).

Applicant describes in his specification that metadata is associated with the transactional events and each remote agent system collects data (e.g., metadata) from a respective customer data storage system that relates to the performance/status of the data storage system.

Therefore examiner interprets performance data and status data as metadata being collected from the remote storage systems, which stores transactional data.

Further paragraph 0127 teaches filtering of data according to different attributes i.e. performance data. Therefore performance data is metadata/(data about data) since reports/data are being filtered according to the performance data.

Further, **Gifford's** figure 1 shown below teaches remote storage systems with remote storage agents which communicate with the central monitoring system/ management station. Gifford also teaches performance data/metadata about the different storage systems, which store digital data.

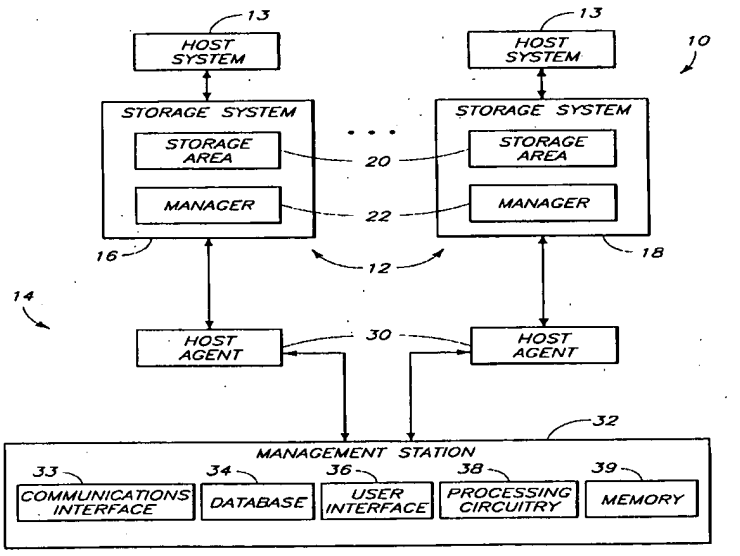

FIG. 1

Regarding claim 2 and 5, applicant argues that **Goldstein** does not teaches **"wherein each remote agent system comprises pattern recognition logic that can identify data patterns that precede fault conditions at a respective remotely located data storage system and each remote agent system comprises action logic that directs the remote agent system to perform one or more corrective action at a respectively remotely located storage system."**

In response to the preceding argument examiner respectfully submits that Goldstein teaches **"wherein each remote agent system comprises pattern recognition logic that can identify data patterns that precede fault conditions at a respective remotely located data storage system"** as the agent computers may be programmed to capture sequences of screen displays during transaction execution, and to transmit these screen displays to the reports server for viewing when a transaction fails. This feature allows the user to view the sequence of events, as "seen" by an agent, that led to the error condition (**Goldstein** Paragraph 0017).

Further, **Goldstein** teaches a function could be provided for ensuring that at least two agent computers 40 are scheduled to execute testcases at all times, so that the failure of a single agent computer will not cause the transactional server to go unmonitored (**Goldstein** Paragraph 0113). The Alerts Wizard may also provide an option (not illustrated) to be notified when certain types of transactions fail, and/or when failures are detected within particular attribute groups (**Goldstein** Paragraph 0117). Therefore Goldstein has test scripts uploaded to the server, which are monitoring transaction servers for any alarm conditions.

"each remote agent system comprises action logic that directs the remote agent system to perform one or more corrective actions at a respective remotely located data storage system in response to identifying a data pattern known to precede a fault condition" as when certain types of server resources are determined by such analysis to be the source of a performance problem, a corrective action is automatically performed according to a set of predefined rules. For instance, a rule may specify that when insufficient disk space available to a particular machine is determined to be the likely source of long transaction response times, additional storage resources are to be automatically allocated to that machine (**Goldstein** Paragraph 0261). A corrective action is being performed according to the problem that has been determined.

Regarding claim 4, applicant argues that **Goldstein** does not teach **"each remote agent system filters collected data prior to communicating the collected data."**

In response to the preceding argument examiner respectfully submits that **Goldstein** teaches **"each remote agent system filters collected data prior to communicating the collected data"** as by using this feature, the user can, for example, filter out from the reports the performance data corresponding to a particular transaction, location, organization, ISP, or combination thereof. In one embodiment (not shown), the user specifies the filter to be applied by completing a web form that includes a respective

check box for each transaction and each attribute used in the monitoring session (Goldstein Paragraph 0127).

Regarding claim 7, applicant argues that **Goldstein** does not teaches **"one or more element information managers (EIMs), wherein each EIM is configured to communicate with a respective data source at a remotely located data storage network and convert data from the data source to the standardized format," "one or more service information managers (SIMs), wherein each SIM is configured to communicate with EIMs associated with a common data application" and "one or more platform information manager (PIMs), wherein each PIM is configured to communicate with SIMs associated with a common data application platform" "and an/activity director that is configured to communicate with each EIM, SIM and PIM and to instruct each EIM, SIM and PIM as to what information to collect and store."**

In response to the preceding arguments examiner respectfully submits that Goldstein teaches "one or more element information managers (EIMs), wherein each EIM is configured to communicate with a respective data source at a remotely located data storage network and convert data from the data source to the standardized format" as the agent captures the screen returned by the transactional server and compares this response against any associated verification points defined within the transaction. The screen displays are preferably stored as bitmap images, but may alternatively be

stored in another format such as HTML documents and associated objects (Goldstein Paragraph 00148).

"one or more service information managers (SIMs), wherein each SIM is configured to communicate with EIMs associated with a common data application" and "one or more platform information manager (PIMs), wherein each PIM is configured to communicate with SIMs associated with a common data application platform" as the controller 34 also includes an automation interface 34C that provides methods for controlling the operation of the agents 32, including dispatching testcases and execution schedules to the agents (**Goldstein** Paragraph 0097).

"and an/activity director that is configured to communicate with each EIM, SIM and PIM and to instruct each EIM, SIM and PIM as to what information to collect and store" as (RCA) system is provided that automatically analyzes performance data collected by agents to locate performance degradations, and to identify lower level parameters (such as server resource parameters) that are correlated with such degradations. In a preferred embodiment, the RCA system analyzes the performance data to detect performance or quality degradations in specific parameter measurements (e.g., a substantial increase in average transaction response times) (**Goldstein** Paragraph 0021 & figure 1). In this reference performance data is being collected and stored in a database, which is communicating with the agents.

Further **Gifford** teaches **"one or more element information managers (EIMs), wherein each EIM is configured to communicate with a respective data source at**

a remotely located data storage network and convert data from the data source to the standardized format" as establishing a common representation format for the first performance metric data and the second performance metric data (**Giffords** Abstract).

"one or more service information managers (SIMs), wherein each SIM is configured to communicate with EIMs associated with a common data application and one or more platform information manager (PIMs), wherein each PIM is configured to communicate with SIMs associated with a common data application platform" as host agents 30 are coupled with respective storage systems 12 and are configured to interface with managers 22 of the respective storage systems 12, for example, using API calls (**Giffords** Paragraph 0021).

All the step of claim 7 are performing the same functionality as being performed in the independent claim 1, therefore reasoning applied to claim 1 is also applied to the rejections of claim 7.

The arguments of all the other independent claims are same as the above argued claims. See above responses to all the other arguments.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Usmaan Saeed whose telephone number is (571)272-4046. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain Alam can be reached on (571)272-3978. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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